Fastener Tightening Specifications

Application	Specification	
	Metric	English
Battery Cable to Battery Terminal Retaining Nut	17 N·m	13 lb ft
Battery Negative Cable to Engine Block Retaining Bolt	25 N·m	18 lb ft
Battery Negative Cable to Engine Block Stud (LY7)	25 N·m	37 lb ft
Battery Positive Cable to Starter Terminal Retaining Nut (LY7, L98)	13 N·m	115 lb in
Battery Positive Cable to UBC Retaining Nut	15 N·m	11 lb ft
Battery Retainer Bolt	18 N·m	13 lb ft
Battery Tray to Chassis Retaining Bolt	6 N·m	53 lb in
Alternator to Block Retaining Bolt (Front)	50 N·m	37 lb ft
Alternator to Block Retaining Bolt (Side)	50 N·m	37 lb ft
Alternator Bracket to Block Retaining Bolt (Main)	23 N·m	17 lb ft
Alternator Output Battery Terminal Nut (V8)	10 N·m	89 lb in
Alternator Bracket to Block Retaining Bolts (alternator Support)	xx N·m	xx lb in
Alternator to Alternator Bracket Retaining Studs	xx N·m	xx lb in
Alternator to Alternator Bracket Retaining Nuts	xx N·m	xx lb in
Power Steering Pump to Power Steering Pump Bracket Retaining Bolts	xx N·m	xx lb in
Alternator Output Battery Terminal Nut (LY7)	13 N·m	115 lb in
Ground Strap to Cylinder Head Bolt (L98)	25 N·m	18 lb ft
Starter Motor Bolt (L98)	30 N·m	22 lb ft
Starter Motor Bolt (LY7)	50 N·m	37 lb ft
Starter Solenoid B+ Terminal Nut (L98, LY7)	4 N·m	35 lb in
Heatsheild to Starter Motor Retaining Bolts	xx N·m	xx lb in
Battery Cable to Battery Clamp Retaining Nut	17 N·m	13 lb ft
Battery Negative Cable to Chassis Retaining Bolt	15 N·m	11 lb ft
Battery Positive Cable to Alternator Battery Output Terminal Retaining Bolt	4 N·m	35 lb in
Battery Positive Cable to Battery Remote Positive Post Retaining Bolt	xx N·m	xx lb in
Battery Positive Cable to Alternator Battery Output Terminal Retaining Nut	xx N·m	xx lb in
Battery Positive Cable to Starter Motor Terminal Retaining Nut	13 N·m	115 lb in
Battery Retainer Plate to Battery Retainer Strap Retaining Nut	18 N·m	13 lb ft
Ground Strap to Chassis Retaining Bolt	xx N·m	xx lb in
Starter Motor to Cylinder Block Retaining Bolts - 3.6L	58 N·m	42 lb ft
Starter Motor to Bell Housing Retaining Bolts - 6.0L	xx N·m	xx lb in
Starter Motor Soleniod Cable to Starter Motor Retaining Bolts V6	20 N·m	14 lb ft
Starter Motor Soleniod Cable to Starter Motor Retaining Bolts V8	10 N·m	89 lb in

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Battery Usage

Application	Specification
Cold Cranking Amperage (CCA)	640 A
Amp Hours	63 A/H
Reserve Capacity	110 Minutes
Replacement Model Number	101-6YR

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Generator Usage

Application	Specification
Alternator Model	SC2
Rated Output	155 Amps
Load Test Output	108 Amps

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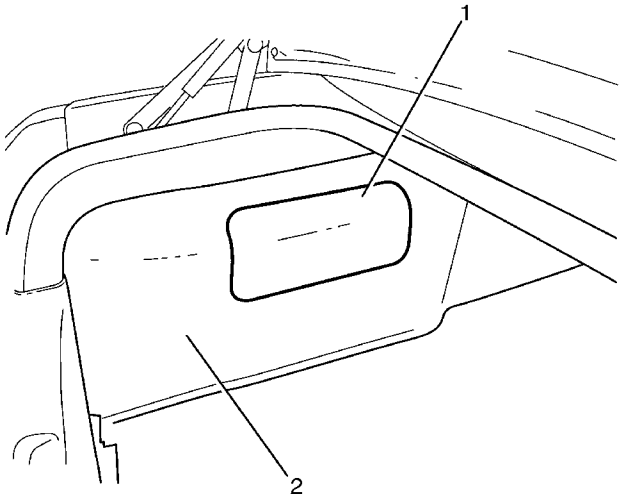
Battery Negative Cable Disconnection and Connection

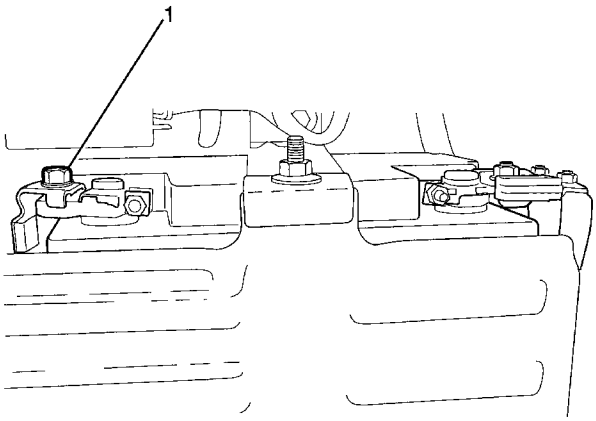
Disconnection Procedure

1. Open the rear compartment lid.



2. Remove the left-hand cargo area carpet side access panel (1) from the left-hand cargo area carpet side (2).

Warning: Refer to Battery Disconnect Warning in the Preface section.



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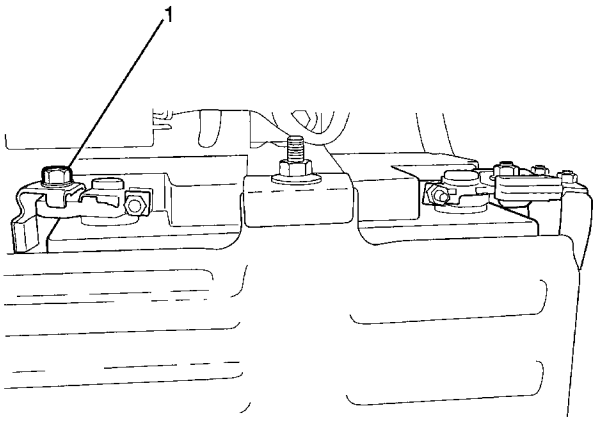
Note: Clean any existing corrosion from the battery terminal and the battery negative cable end.

3. Remove the battery negative cable to battery terminal retaining nut (1).

Connect Procedure

Warning: Refer to Battery Disconnect Warning in the Preface section.

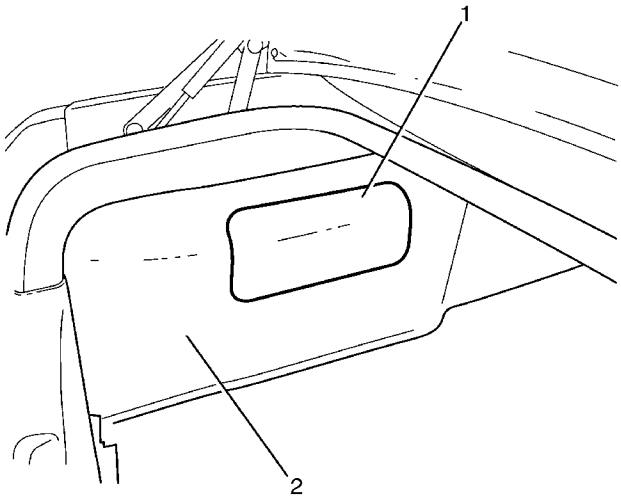


Note: Clean any existing corrosion from the battery terminal and the battery negative cable end.

1. Connect the battery negative cable to the battery.

   Caution: Refer to Fastener Caution in the Preface section.

2. Install the battery negative cable to battery terminal retaining nut (1) and tighten to **17 N·m (13 lb ft)**.



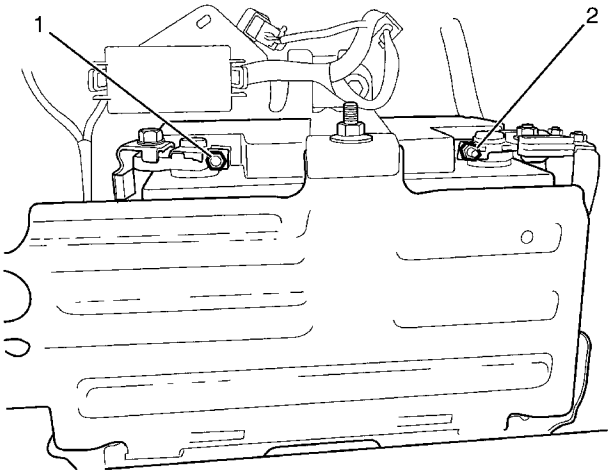
3. Install the left-hand cargo area carpet side access panel (1) in the left-hand cargo area carpet side (2).
4. Close the rear compartment lid.

Battery Negative Cable Replacement

Removal Procedure

1. Remove the cargo area centre carpet. Refer to Rear Compartment Floor Panel Carpet Replacement.
2. Remove the left-hand cargo area carpet side. Refer to Rear Compartment Side Trim Panel Replacement.

Warning: Refer to Battery Disconnect Warning in the Preface section.



Note: Clean any existing corrosion from the battery terminal and the battery cable end.

3. Remove the battery negative cable to battery terminal retaining nut (1) from the battery terminal.
4. Remove the battery negative cable (1) from the battery terminal.

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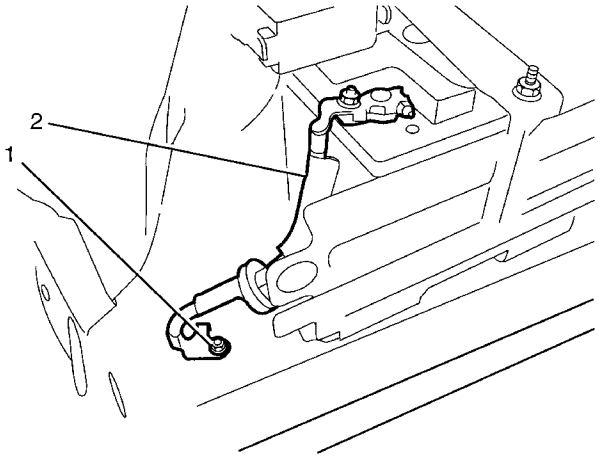
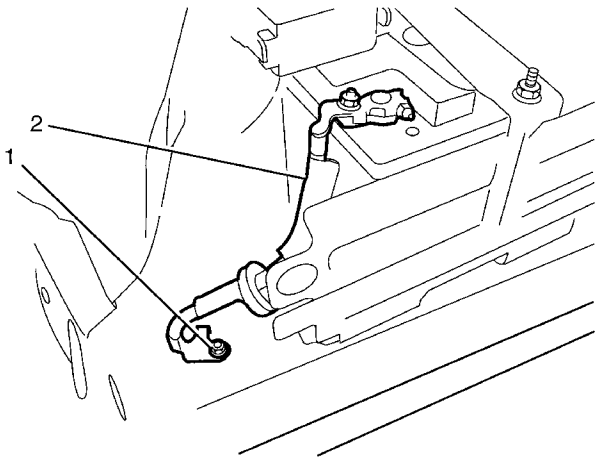


5. Remove the negative battery cable to chassis retaining bolt (1).
6. Remove the negative battery cable from the vehicle (2).

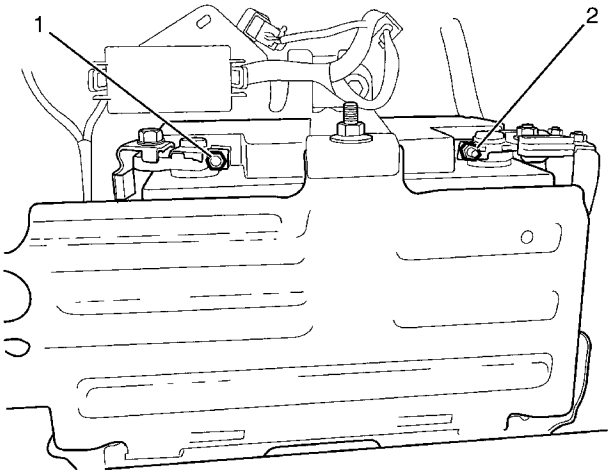
Installation Procedure

Caution: Refer to Fastener Caution in the Preface section.



1. Install the negative battery cable to chassis retain bolt (1) and tighten to **15 N·m (11 lb ft)**.

Warning: Refer to Battery Disconnect Warning in the Preface section.



Note: Clean any existing corrosion from the battery terminal and the battery cable end.

2. Install the negative battery cable to the battery terminal.
3. Install the negative battery cable nut (1) to negative battery terminal and tighten to **17 N·m (13 lb ft)**.
4. Install the left-hand cargo area carpet side. Refer to Rear Compartment Side Trim Panel Replacement.
5. Install the cargo area center carpet. Refer to Rear Compartment Floor Panel Carpet Replacement.

Battery Positive Cable Replacement (Rear)

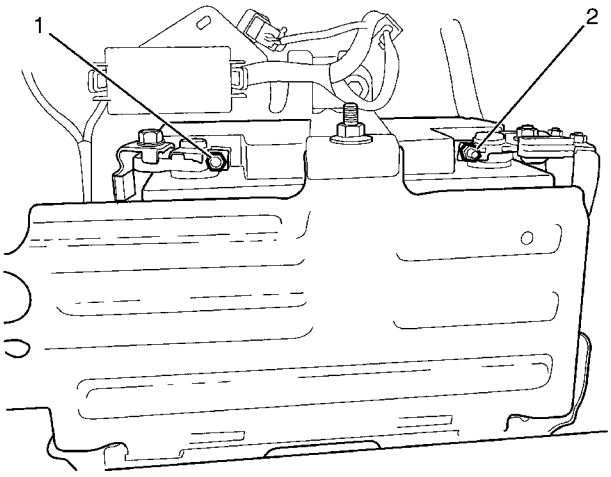
Removal Procedure

Note:

- Always use replacement cables that are of the same type, diameter and length of the cables that you are replacing.
- Always route the replacement cable the same as the original cable.

1. Remove the front seat. Refer to Front Seat Replacement - Bucket.
2. Remove the rear seat cushion. Refer to Rear Seat Cushion Replacement.
3. Remove the rear seat back. Refer to Rear Seat Back Cushion Replacement.
4. Remove the left front floor panel carpet. Refer to Front Floor Panel Carpet Replacement.
5. Remove the rear quarter trim panel. Refer to Quarter Lower Rear Trim Panel Replacement.
6. Remove the rear compartment floor panel carpet replacement. Refer to Rear Compartment Floor Panel Carpet Replacement

Warning: Refer to Battery Disconnect Warning in the Preface section.



7. Disconnect the battery negative cable (1). Refer to Battery Negative Cable Disconnection and Connection.
8. Disconnect the battery positive cable (2) from the battery.

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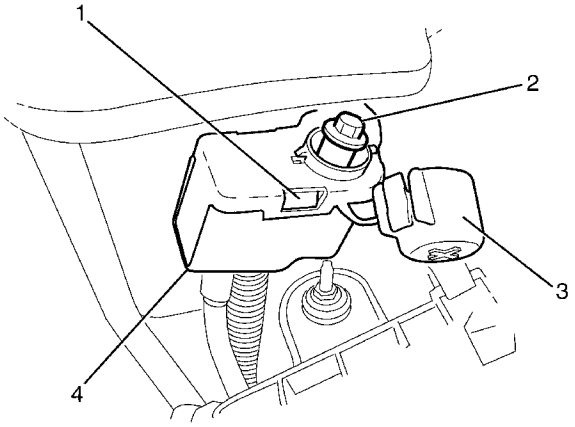
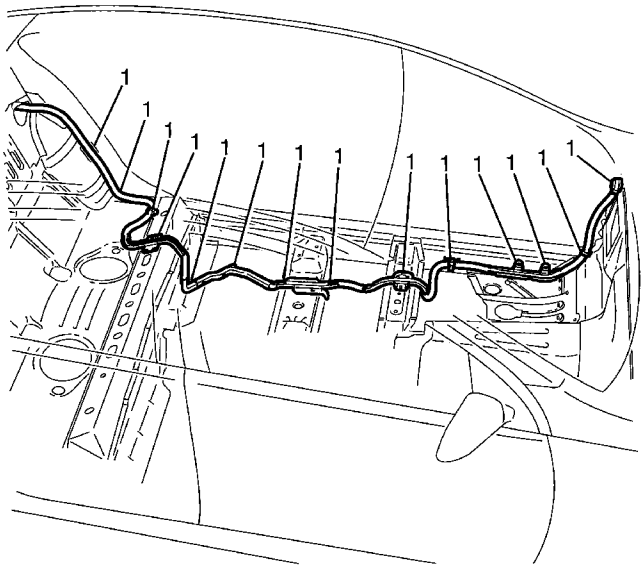
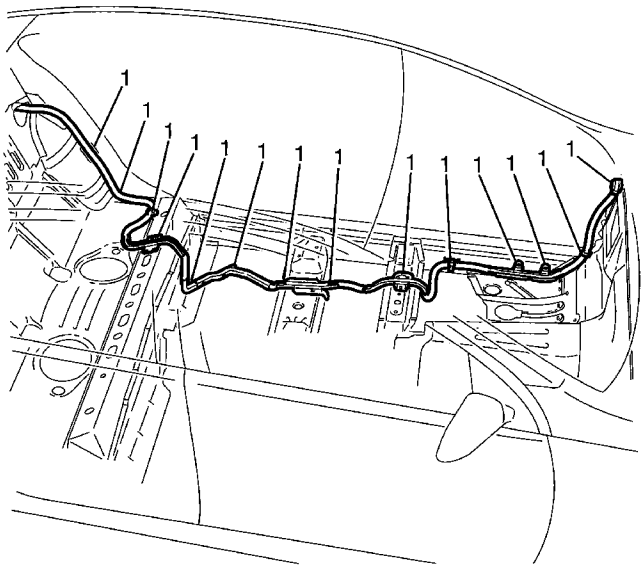


9. Detach the battery post cover (3)..
10. Press the retaining clip (1) to remove battery post protective cover (4).
11. Remove the battery post retaining bolt (2).



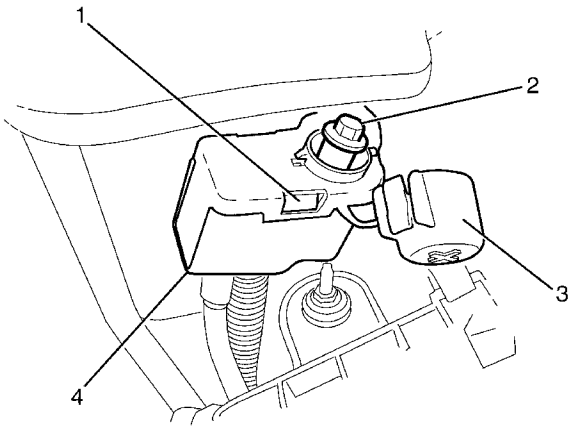
12. Remove the battery positive cable to chassis retaining clips (1).
13. Remove the battery positive cable from the vehicle.

Installation Procedure

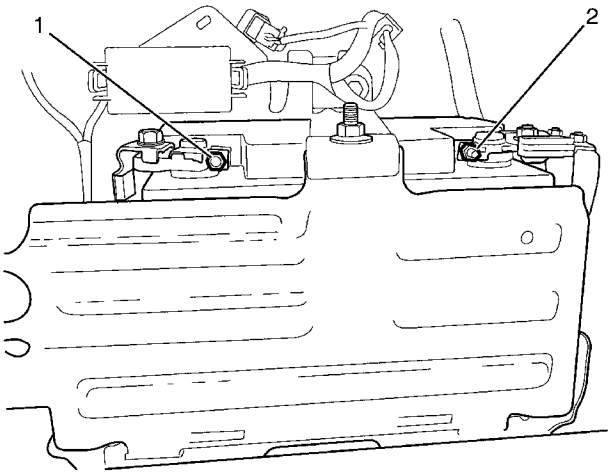


1. Install the battery positive cable to the vehicle.
2. Install the battery positive cable to chassis retaining clips (1).

Caution: Refer to Fastener Caution in the Preface section.



3. Install the battery post retaining bolt (2) and tighten to **15 N·m (11 lb ft)**.
4. Install the battery post protective cover (4).
5. Attach the battery post cover (3).



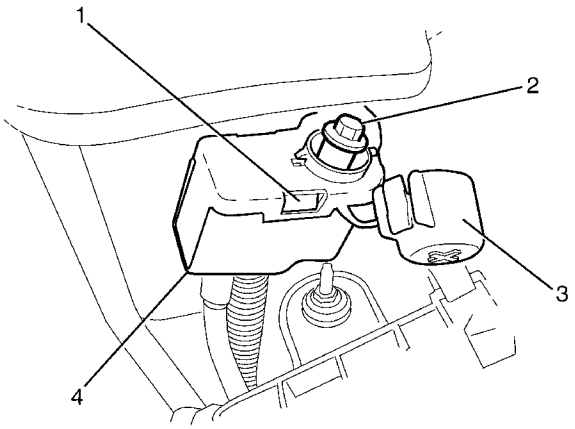
6. Connect the battery positive cable (2) to the battery.
7. Connect the battery negative cable (1). Refer to Battery Negative Cable Disconnection and Connection.
8. Install the rear floor panel carpet. Refer to Rear Compartment Floor Panel Carpet Replacement
9. Install the rear quarter trim panel. Refer to Quarter Lower Rear Trim Panel Replacement.
10. Install the left front floor panel carpet. Refer to Front Floor Panel Carpet Replacement.
11. Install the rear seat back. Refer to Rear Seat Back Cushion Replacement.
12. Install the rear seat cushion. Refer to Rear Seat Cushion Replacement.
13. Install the front seat. Refer to Front Seat Replacement - Bucket.
14. Install the cargo area centre carpet. Refer to Rear Compartment Floor Panel Carpet Replacement
15. Connect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.

Battery Positive Cable Replacement (Front - V6)

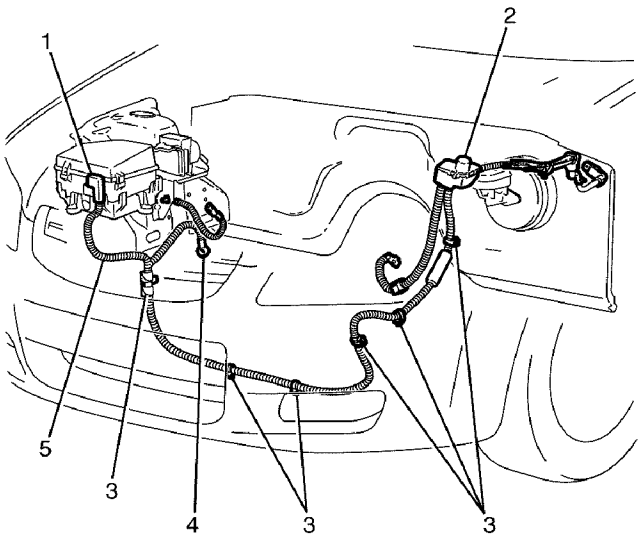
Removal Procedure

Warning: Refer to Battery Disconnect Warning in the Preface section.

1. Disconnect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.
2. Remove the front air deflector. Refer to Front Air Deflector Replacement.



3. Detach the battery post cover (3).
4. Press the retaining clip (1) to remove battery post protective cover (4).
5. Remove the battery post retaining bolt (2).



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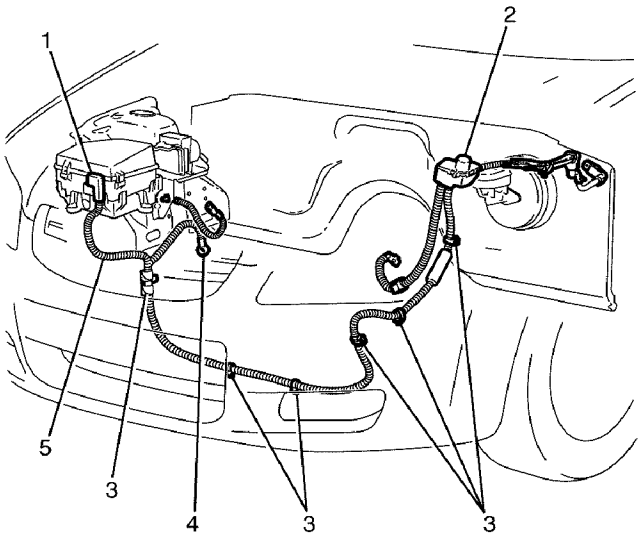
6. Remove the front battery positive cable from battery post (2).
7. Remove the front battery positive cable to underhood body electrical centre retaining bolt (1).
8. Remove the front battery positive cable to alternator retaining nut (4).
9. Remove the front battery positive cable to chassis retaining clips (3).
10. Remove the front battery positive cable (5) from the engine compartment.

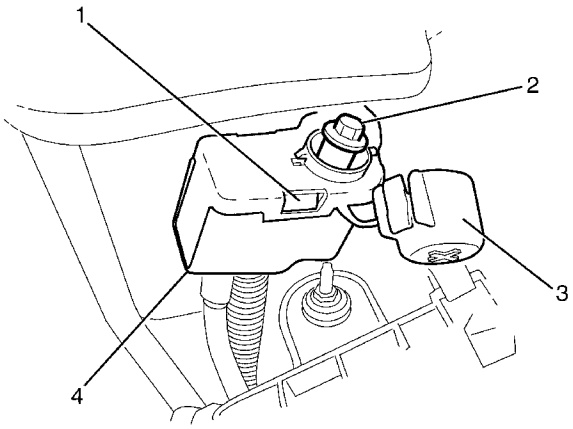
Installation Procedure



1. Install the front battery positive cable (5) to the engine compartment.
2. Install the front battery positive cable to chassis retaining clips (3).

Caution: Refer to Fastener Caution in the Preface section.

3. Install the front battery positive cable to battery post (2) and tighten to **15 N·m (11 lb ft)**.
4. Install the battery positive cable to underhood body electrical centre retaining nut (1) and tighten to **10 N·m(89 lb in**.
5. Install the battery positive cable to alternator battery output terminal, install the retaining nut (4) and tighten to **13 N·m (115 lb in)**.



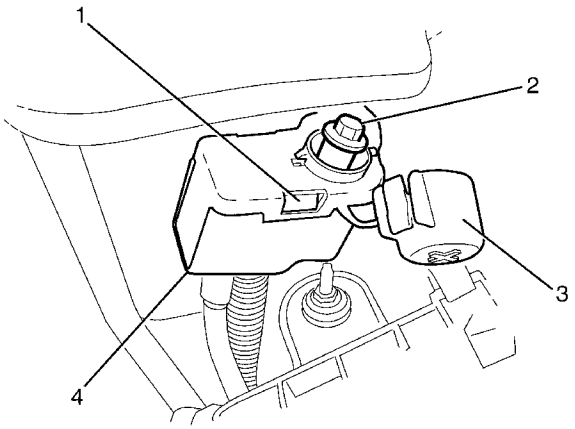
6. Install the battery post protective cover (4).
7. Attach the battery post cover (3).
8. Connect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.
9. Install the front air deflector. Refer to Front Air Deflector Replacement.

Battery Positive Cable Replacement (Front - V8)

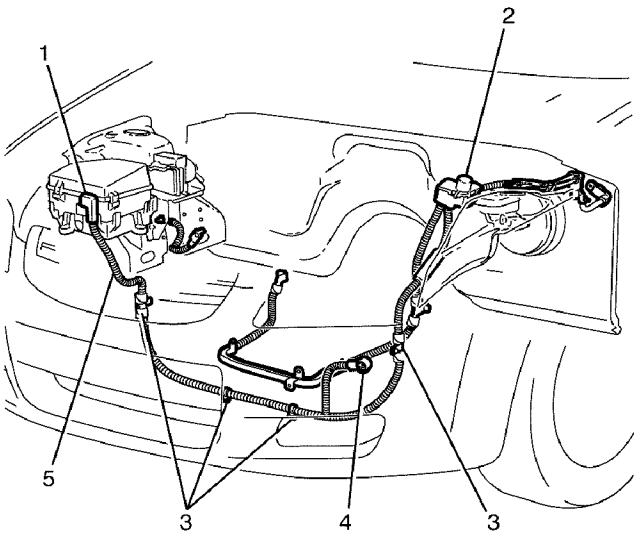
Removal Procedure

Warning: Refer to Battery Disconnect Warning in the Preface section.

1. Disconnect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.
2. Remove the front air deflector. Refer to Front Air Deflector Replacement.



3. Detach the battery post cover (3).
4. Press the retaining clip (1) to remove battery post protective cover (4).
5. Remove the battery post retaining bolt (2).



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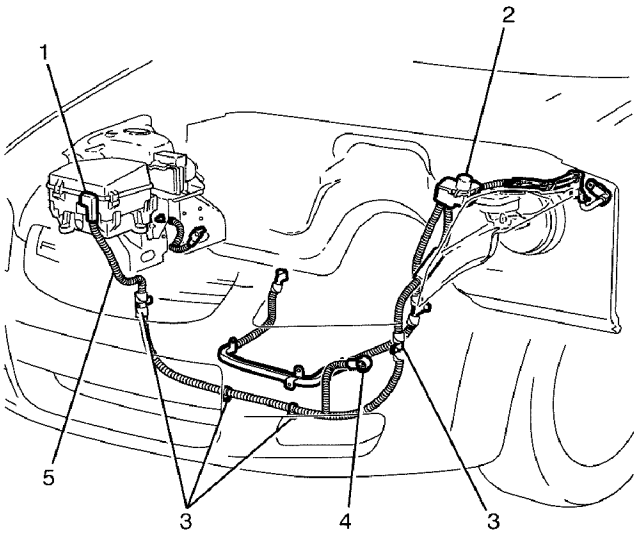
6. Remove the front battery positive cable from battery post (2).
7. Remove the front battery positive cable to underhood body electrical centre retaining bolt (1).
8. Remove the front battery positive cable to alternator retaining nut (4).
9. Remove the front battery positive cable to chassis retaining clips (3).
10. Remove the front battery positive cable (5) from the engine compartment.

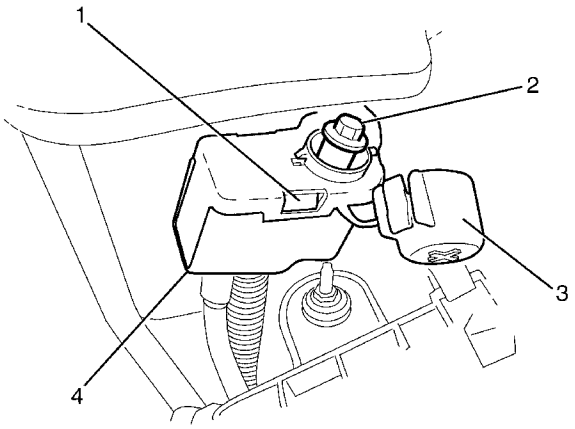
Installation Procedure



1. Install the front battery positive cable (5) to the engine compartment.
2. Install the front battery positive cable to chassis retaining clips (3).

Caution: Refer to Fastener Caution in the Preface section.

3. Install the front battery positive cable to battery post (2) and tighten to **15 N·m (11 lb ft)**.
4. Install the battery positive cable to underhood body electrical centre retaining nut (1) and tighten to **10 N·m(89 lb in)**.
5. Install the battery positive cable to alternator retaining nut (4) and tighten to **13 N·m (115 lb in)**.



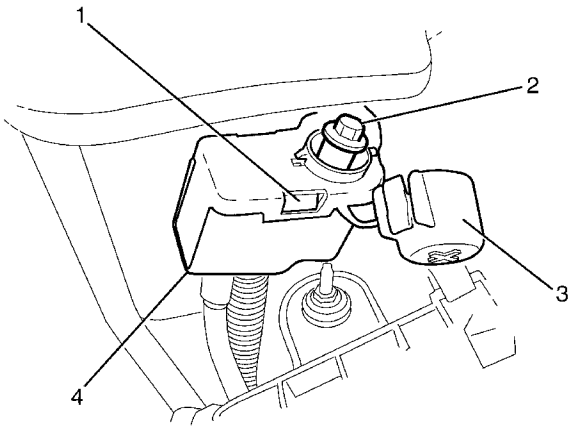
6. Install the battery post protective cover (4).
7. Attach the battery post cover (3).
8. Connect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.
9. Install the front air deflector. Refer to Front Air Deflector Replacement.

Battery Positive Cable Replacement (Starter - V6)

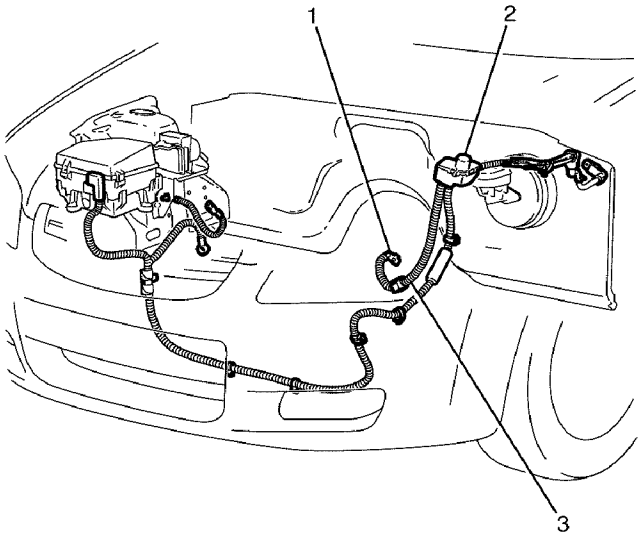
Removal Procedure

Warning: Refer to Battery Disconnect Warning in the Preface section.

1. Disconnect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.
2. Remove the front air deflector. Refer to Front Air Deflector Replacement.



3. Detach the battery post cover (3).
4. Press the retaining clip (1) to remove battery post protective cover (4).
5. Remove the battery post retaining bolt (2).



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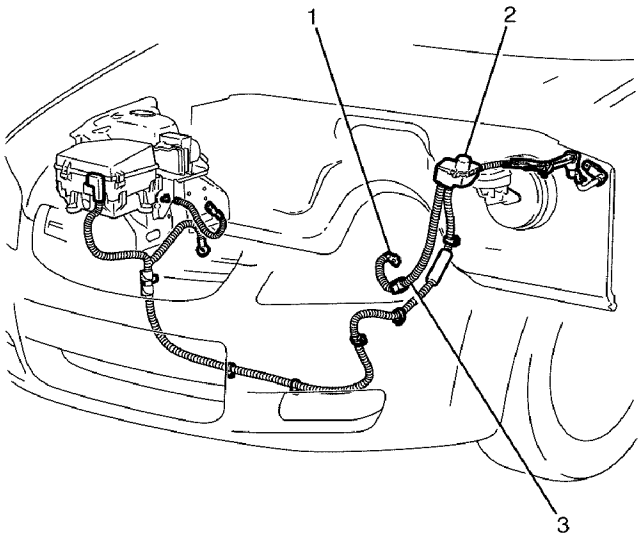
6. Remove the starter battery positive cable from battery post (2).
7. Remove the starter battery positive cable (3) to starter motor retaining bolt (1).
8. Remove the front battery positive cable to chassis retaining clips.
9. Remove the starter battery positive cable (3) from the engine compartment.

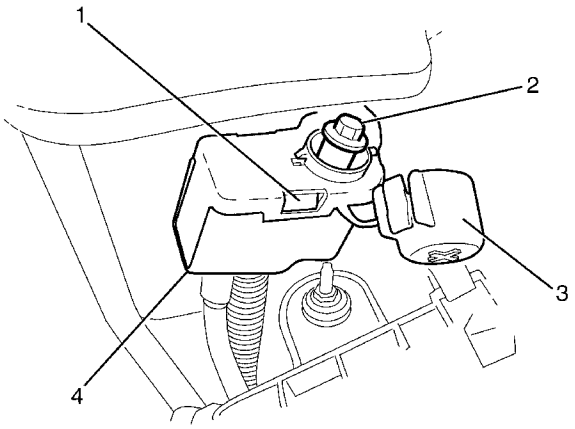
Installation Procedure



1. Install the starter battery positive cable (3) to the engine compartment.

   Caution: Refer to Fastener Caution in the Preface section.

2. Install the starter battery positive cable to battery post (2) and tighten to **15 N·m (11 lb ft)**.
3. Install the starter battery positive cable to starter motor and install the retaining nut (1) and tighten to **20 N·m (14 lb ft)**.



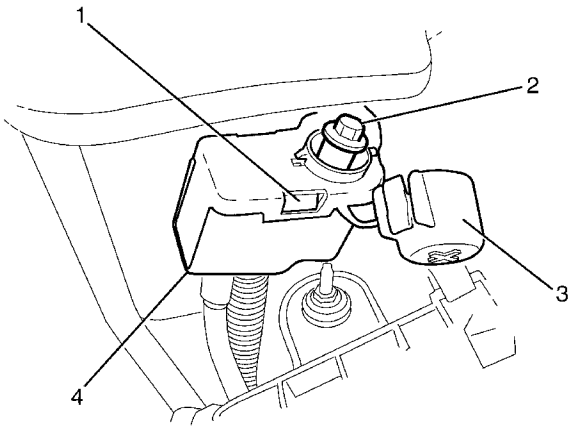
4. Install the battery post protective cover (4).
5. Attach the battery post cover (3).

Battery Positive Cable Replacement (Starter - V8)

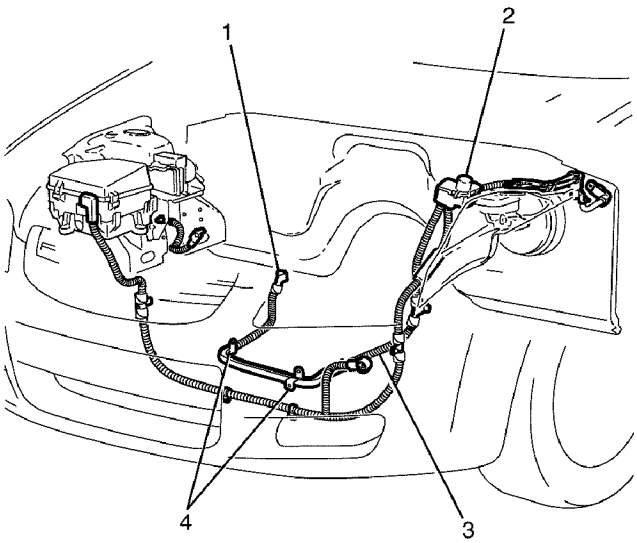
Removal Procedure

Warning: Refer to Battery Disconnect Warning in the Preface section.

1. Disconnect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.
2. Remove the front air deflector. Refer to Front Air Deflector Replacement.



3. Detach the battery post cover (3).
4. Press the retaining clip (1) to remove battery post protective cover (4).
5. Remove the battery post retaining bolt (2).



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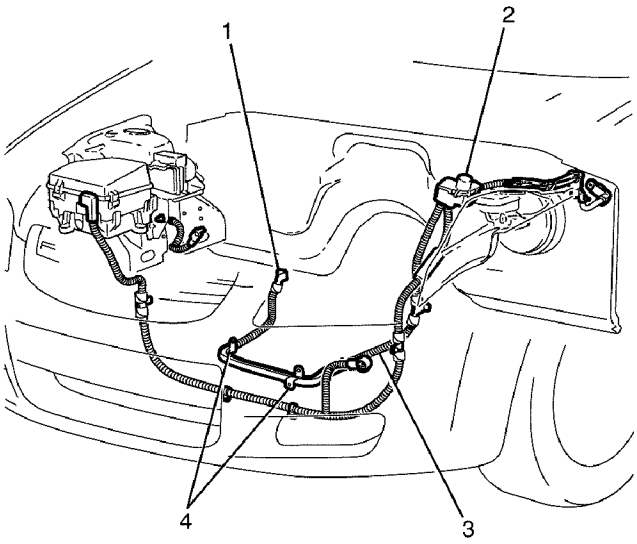
6. Remove the starter battery positive cable from the battery post (2).
7. Remove the starter battery positive cable (3) to starter motor retaining bolt (1).
8. Remove the starter battery positive cable to chassis retaining clips (4).
9. Remove the starter battery positive cable (3) from the engine compartment.

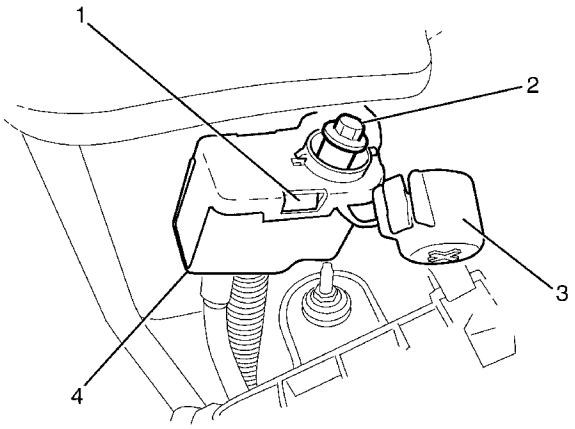
Installation Procedure



1. Install the starter battery positive cable (3) to the engine compartment.
2. Install the starter battery positive cable to chassis retaining clips (4).

Caution: Refer to Fastener Caution in the Preface section.

3. Install the front battery positive cable to battery post (2) and tighten to **15 N·m (11 lb ft)**.
4. Install the starter battery positive cable to starter motor and install retaining nut (1) and tighten to **20 N·m (14 lb ft)**.

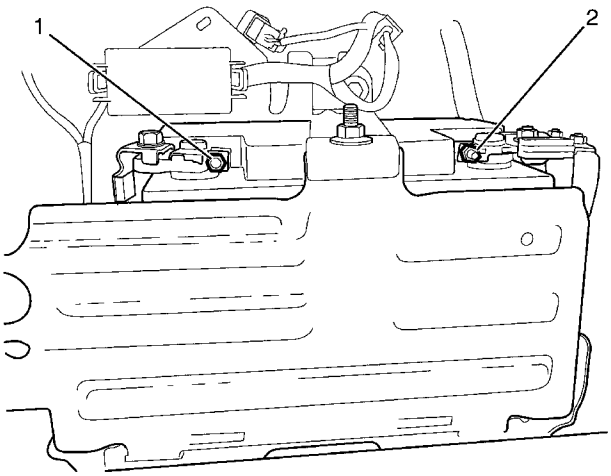


5. Install the battery post protective cover (4).
6. Attach the battery post cover (3).
7. Install the front air deflector. Refer to Front Air Deflector Replacement.
8. Connect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.

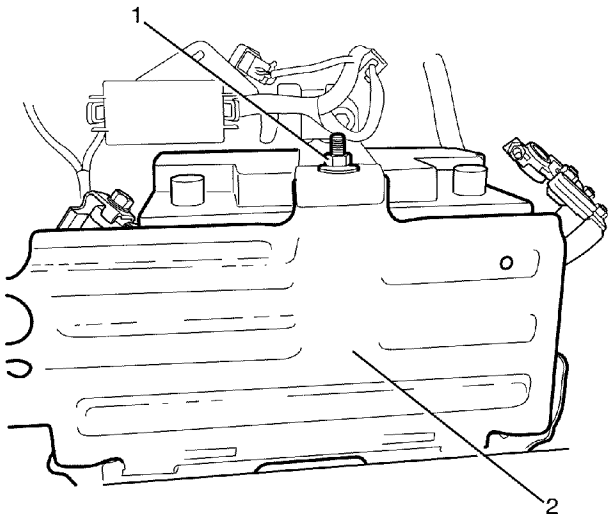
Battery Replacement

Removal Procedure

1. Remove the cargo area centre carpet. Refer to Rear Compartment Floor Panel Carpet Replacement.
2. Remove the left-hand side cargo area trim. Refer to Rear Compartment Side Trim Panel Replacement.



3. Disconnect the battery negative cable (1) from the battery. Refer to Battery Negative Cable Disconnection and Connection.
4. Disconnect the battery positive cable (2) from the battery.



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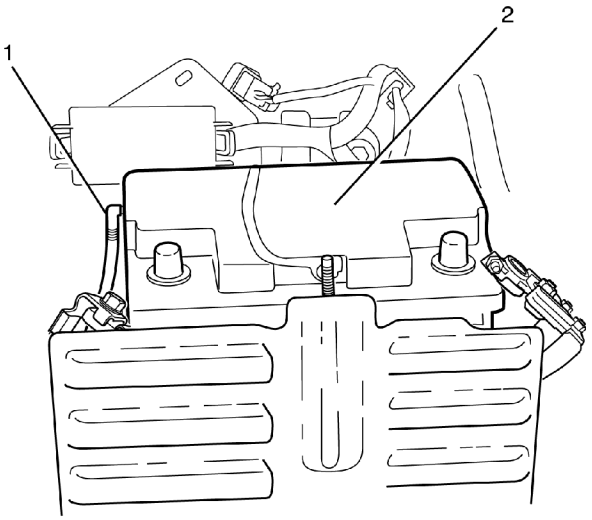
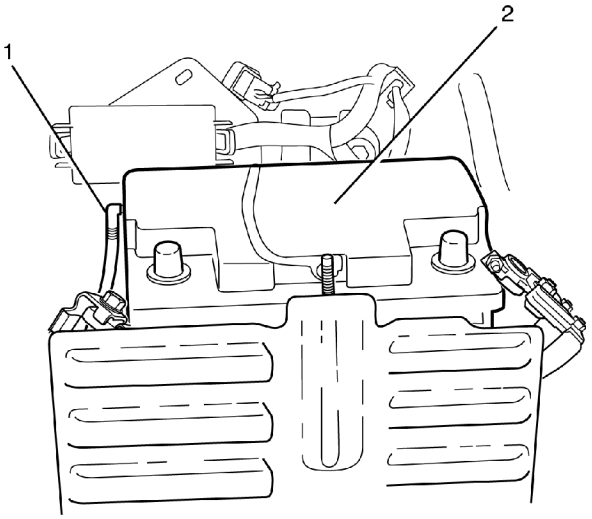
5. Remove the battery retainer strap nut (1) from the battery retainer.
6. Remove the battery retainer plate (2) from the vehicle.



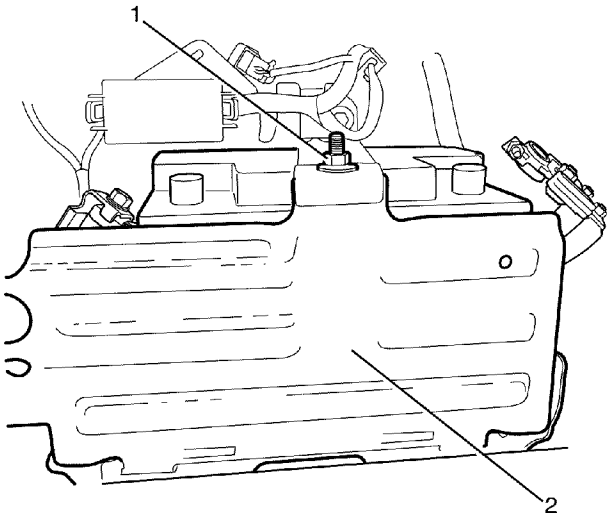
7. Detach the battery vent hose (1) from the battery (2).
8. Remove the battery (2) from the vehicle.

Installation Procedure

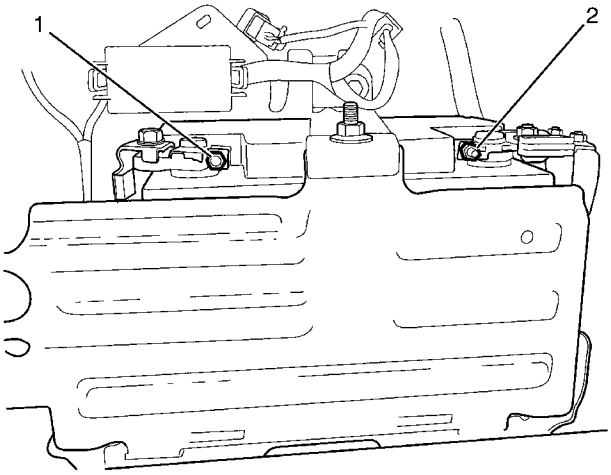


1. Install the battery (2) to the vehicle.
2. Attach the battery vent hose (1) to the battery (2).

Caution: Refer to Fastener Caution in the Preface section.



3. Install the battery retainer plate (2), locate the retainer strap to the retainer plate, and install the battery retainer strap nut (1). Tighten the nut to **18 N·m (13 lb ft)**.



4. Connect the battery positive cable (2) to the battery and tighten to **17 N·m (13 lb ft)**.
5. Connect the battery negative cable (1) and tighten to **17 N·m (13 lb ft)**. Refer to Battery Negative Cable Disconnection and Connection.
6. Install the cargo area centre carpet. Refer to Rear Compartment Side Trim Panel Replacement.
7. Instal the left-hand side cargo area trim. Refer to Rear Compartment Floor Panel Carpet Replacement.
8. Close rear compartment lid.

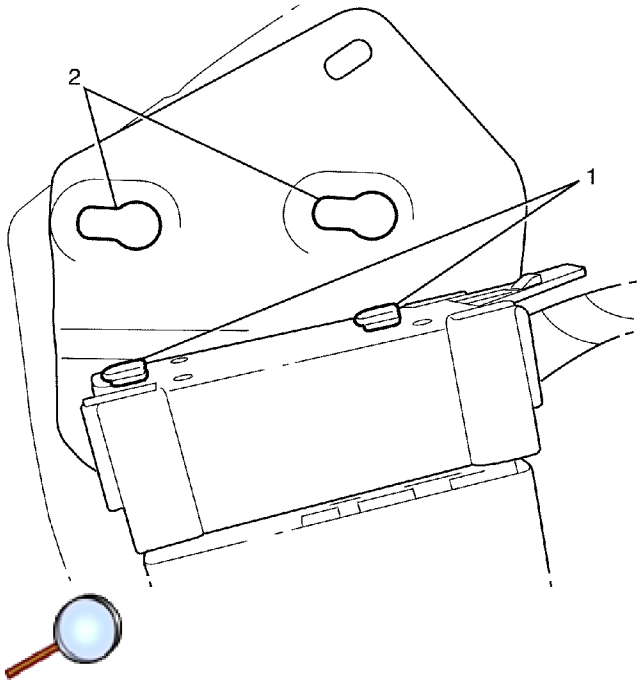
Battery Tray Replacement

Removal Procedure

1. Remove the cargo area center carpet. Refer to Rear Compartment Floor Panel Carpet Replacement.
2. Remove the left-hand side cargo area trim. Refer to Rear Compartment Side Trim Panel Replacement.

   Warning: Refer to Battery Disconnect Warning in the Preface section.

3. Disconnect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.
4. Remove the battery. Refer to Battery Replacement.



   Note: To remove the fuse box, the locking tabs (1) must be released. Push the fuse box towards the front of the vehicle to allow the fuse box to be released from the battery tray (2).

5. Remove the fuse box from the battery tray to allow access to the retaining bolts.

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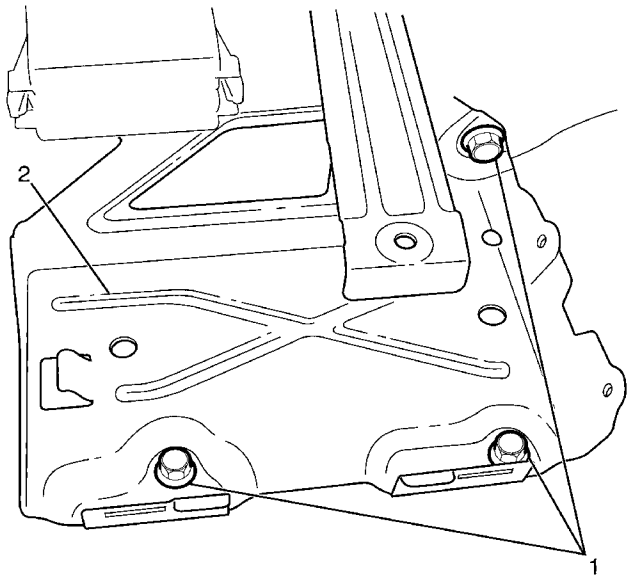
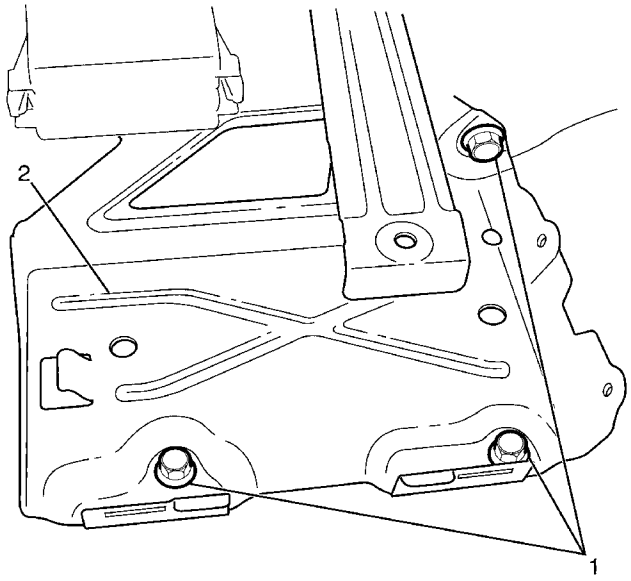


6. Remove the battery tray to chassis mounting bolts (1).
7. Remove the battery tray from the vehicle (2).

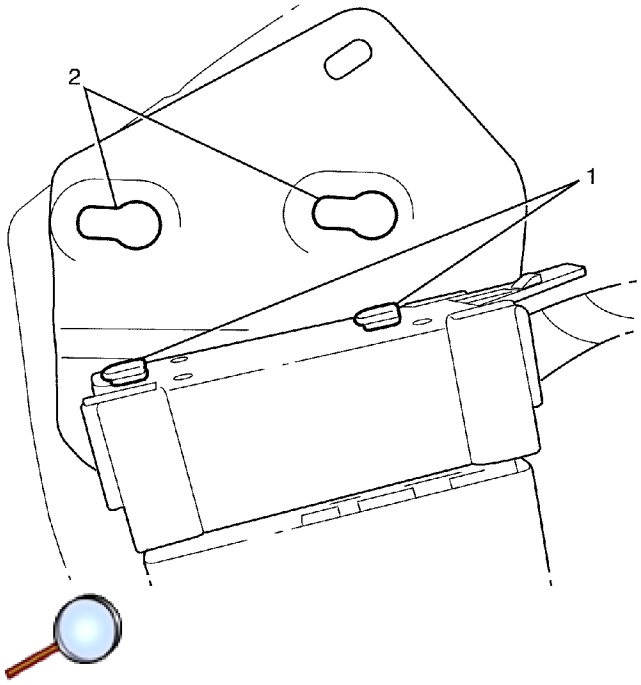
Installation Procedure



1. Fit the battery tray to the vehicle (2).

   Caution: Refer to Fastener Caution in the Preface section.

2. Fit the battery tray to chassis retaining bolts (1) and tighten to **25 N·m (18 lb ft)**.



Note: The fuse box locking tabs (1) must be located correctly into the battery tray (2). Push the fuse box towards the rear of the vehicle to lock the fuse box into place.

3. Install the fuse box to the battery tray.

Warning: Refer to Battery Disconnect Warning in the Preface section.

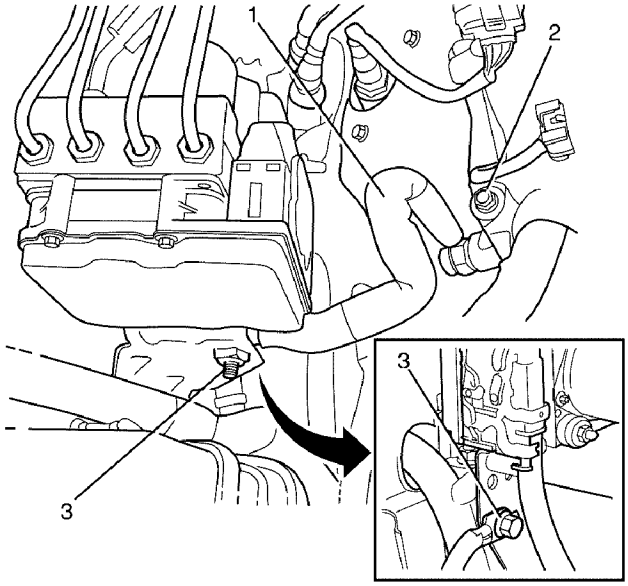
4. Install the battery. Refer to Battery Replacement.
5. Install the left-hand side cargo area trim. Refer to Rear Compartment Side Trim Panel Replacement.
6. Install the cargo area center carpet.. Refer to Rear Compartment Floor Panel Carpet Replacement.

Engine Ground Strap Replacement

Removal Procedure

Warning: Refer to Battery Disconnect Warning in the Preface section.

1. Disconnect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.



2. Remove the ground strap to chassis retaining bolt (3).
3. Remove the ground strap to engine block retaining bolt (2).
4. Remove the ground strap (1) from the engine compartment.

Installation Procedure

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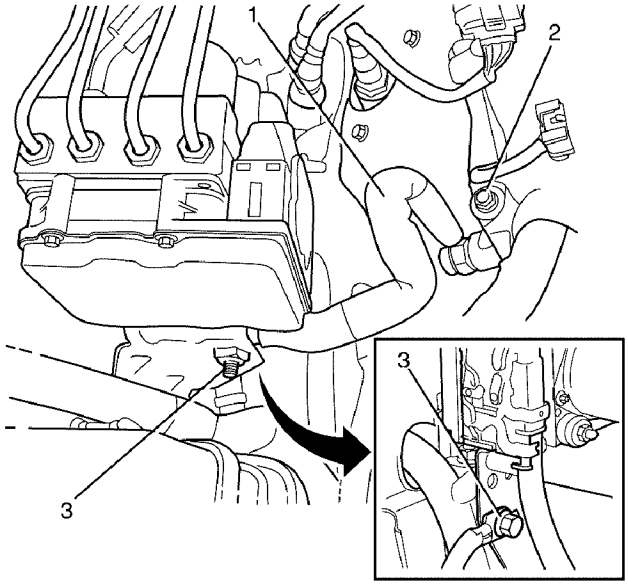


1. Install the ground strap (1) to the engine compartment.

   Caution: Refer to Fastener Caution in the Preface section.

2. Install the ground strap to engine block retaining bolt (2) and tighten to **50 N·m (37 lb ft)**.
3. Install the ground strap to chassis retaining bolt (3) and tighten to **xx N·m (xx lb ft)**.
4. Connect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.

Starter Replacement (3.6L)

Removal Procedure

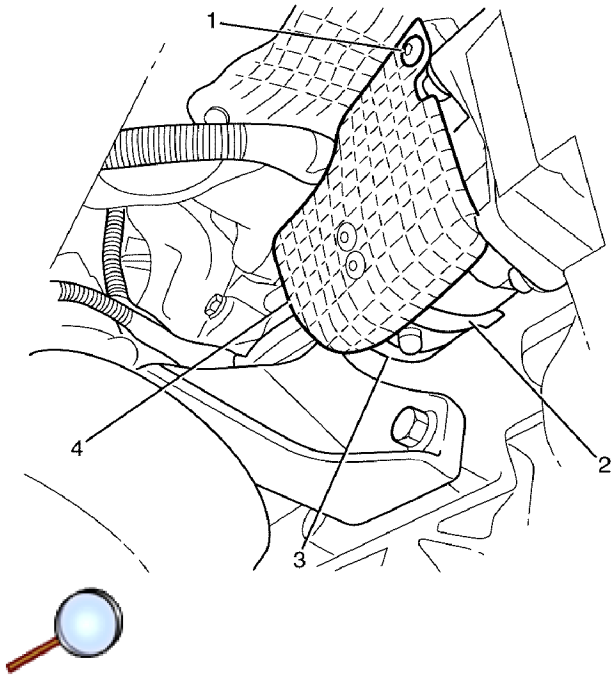
Warning: Refer to Safety Glasses Warning in the Preface section.

Danger: To avoid any vehicle damage, serious personal injury or death when major components are removed from the vehicle and the vehicle is supported by a hoist, support the vehicle with jack stands at the opposite end from which the components are being removed and strap the vehicle to the hoist.

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Ignition OFF.

Warning: Refer to Battery Disconnect Warning in the Preface section.

3. Disconnect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.
4. Remove the right catalytic converter from the vehicle. Refer to Catalytic Converter Replacement - Right Side.



5. Remove the starter motor heat shield to starter motor retaining screw (1).
6. Detach the starter motor heat shield to starter motor retaining clip (2) from the starter motor (3).
7. Remove the starter motor heat shield (4).

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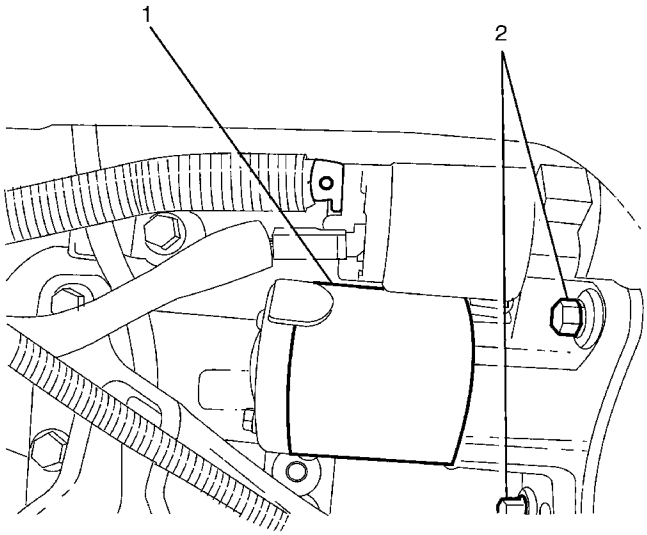
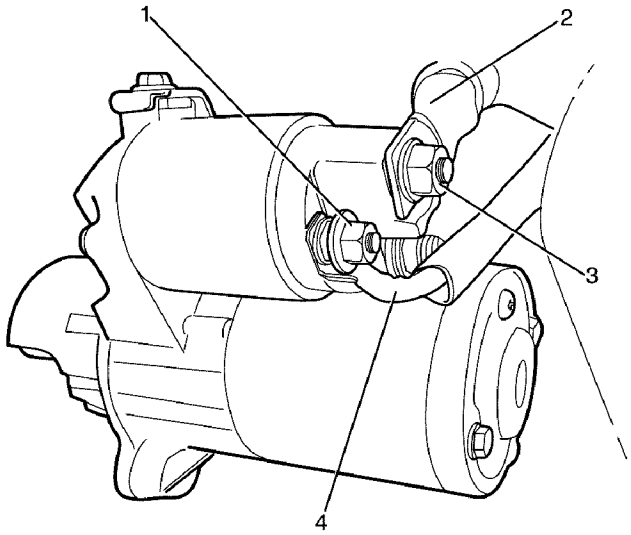
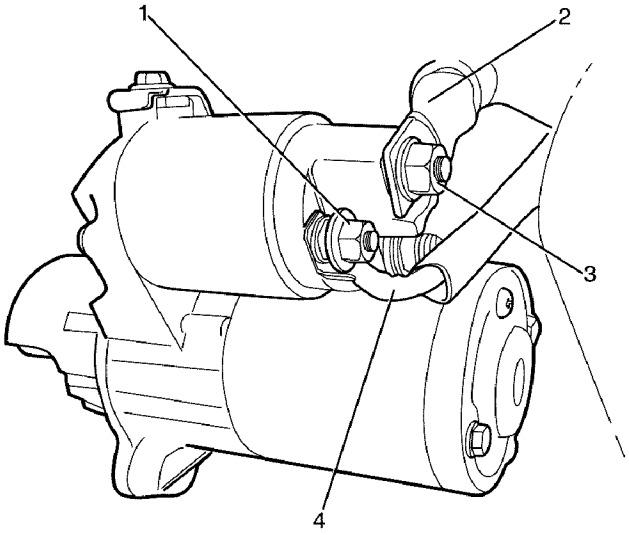


8. Remove the starter motor to bell housing retaining bolts (2).
9. Remove the starter motor (1) from the bell housing.



10. Remove the engine wiring harness lead nut (1).
11. Remove the engine wiring harness lead terminal (4) from the starter motor.
12. Remove battery positive cable retaining nut (3) from the starter motor solenoid.
13. Remove the battery positive cable (2) from the starter motor.

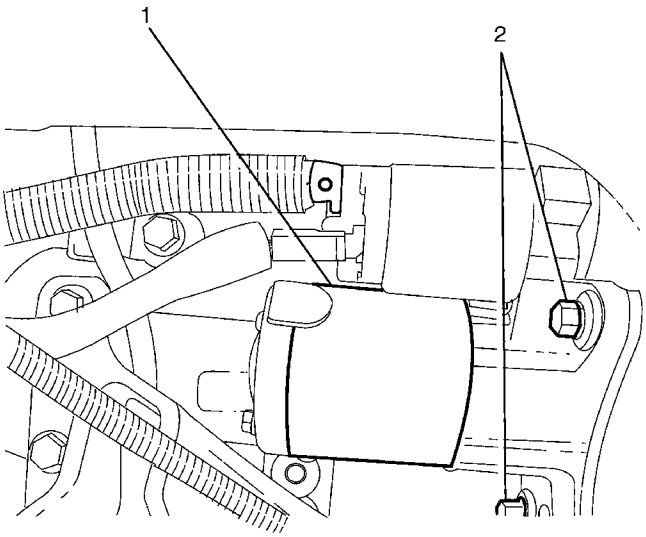
Installation Procedure



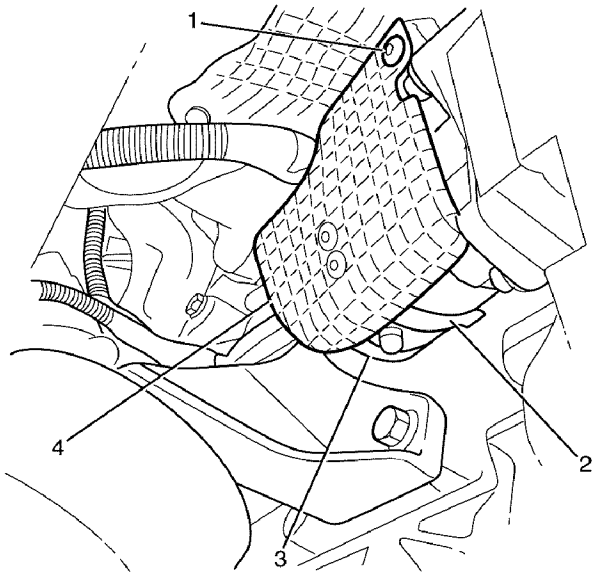
1. Install the engine wiring harness lead terminal (4) from the starter motor.

Caution: Refer to Fastener Caution in the Preface section.

2. Install the engine wiring harness lead nut (1) and tighten to **4 N·m (30 lb ft)**.
3. Install the battery positive cable (2) from the starter motor.
4. Install battery positive cable retaining nut (3) to the starter motor solenoid and tighten to **10 N·m (7 lb ft)**.
5. Manoeuvre the starter motor into place, locating into the correct position on the bell housing.



6. Install the starter motor to bell housing (2) retaining bolts and tighten to **50 N·m (37 lb ft)**.



Note: Make sure the heat shield to starter motor retaining clip (2) is correctly attached to the starter motor (3).

7. Attach the heat shield (4) to the starter motor (3).
8. Install the heat shield to starter motor retaining bolt (1) and tighten to **5 N·m (44 lb in)**.
9. Install the right catalytic converter to the vehicle. Refer to Catalytic Converter Replacement - Right Side.

Warning: Refer to Battery Disconnect Warning in the Preface section.

10. Connect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.
11. Remove the safety stands.
12. Lower the vehicle to the ground.

Starter Replacement (6.0L)

Removal Procedure

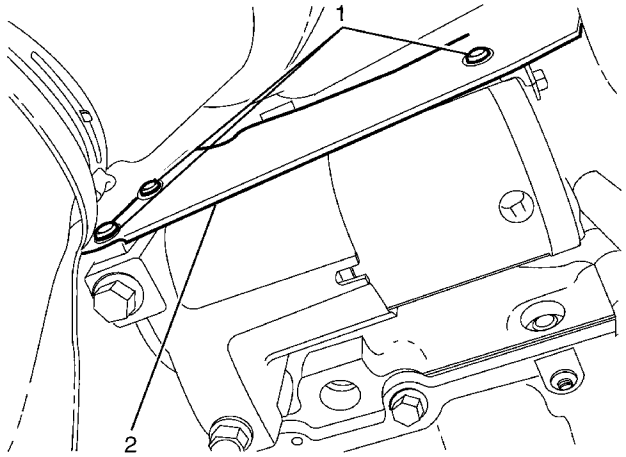
Warning: Refer to Battery Disconnect Warning in the Preface section.

1. Disconnect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.

Warning: Refer to Safety Glasses Warning in the Preface section.

Danger: To avoid any vehicle damage, serious personal injury or death when major components are removed from the vehicle and the vehicle is supported by a hoist, support the vehicle with jack stands at the opposite end from which the components are being removed and strap the vehicle to the hoist.

2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
3. Remove the right catalytic converter from the vehicle. Refer to Catalytic Converter Replacement - Right Side.



4. Remove the starter motor heat shield to starter motor retaining bolts (1).
5. Remove the heat shield from the vehicle (2).

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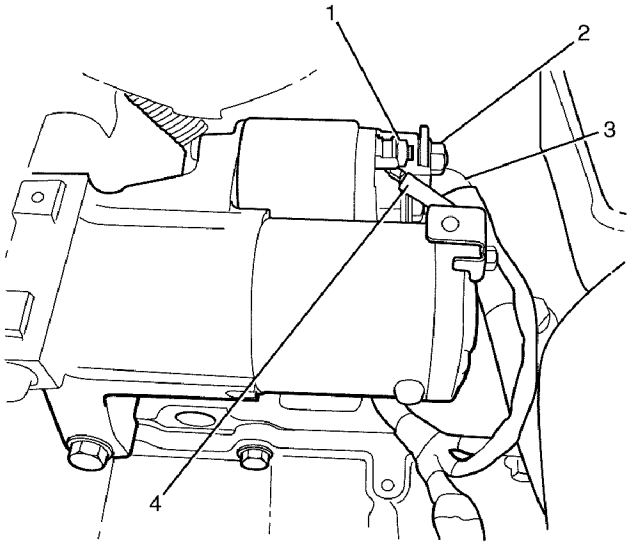
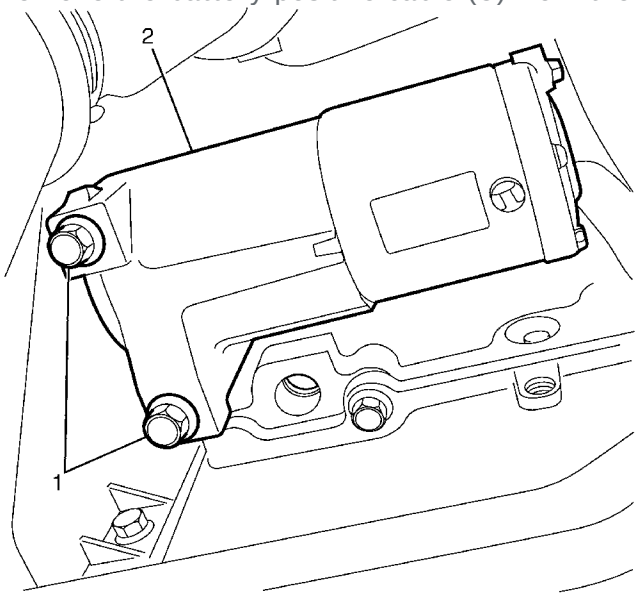


6. Remove the engine wiring harness lead nut (1).
7. Remove the engine wiring harness lead terminal (4) from the starter motor.
8. Remove battery positive cable retaining nut (2) from the starter motor solenoid.
9. Remove the battery positive cable (3) from the starter motor.



10. Remove starter motor to engine block retaining bolts (1).
11. Manoeuvre the starter motor (2) out and down between the transmission bell housing and body sub frame.

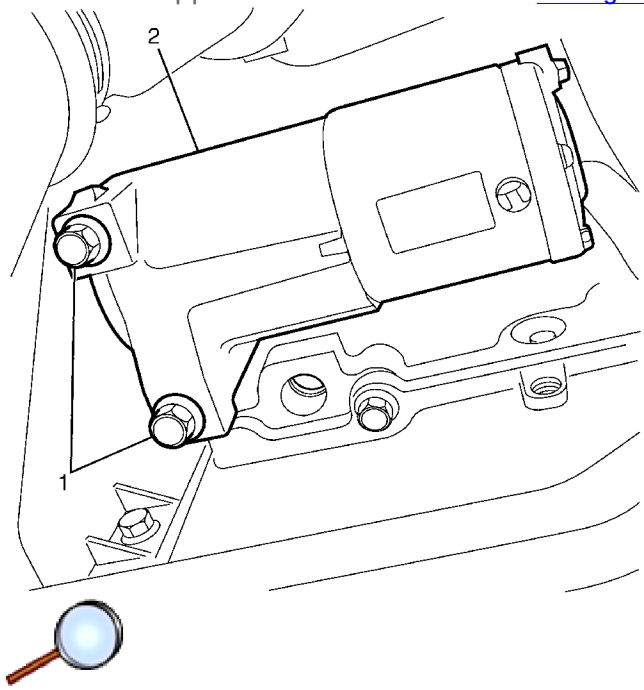
Installation Procedure

Warning: Refer to Safety Glasses Warning in the Preface section.

Danger: To avoid any vehicle damage, serious personal injury or death when major

components are removed from the vehicle and the vehicle is supported by a hoist, support the vehicle with jack stands at the opposite end from which the components are being removed and strap the vehicle to the hoist.

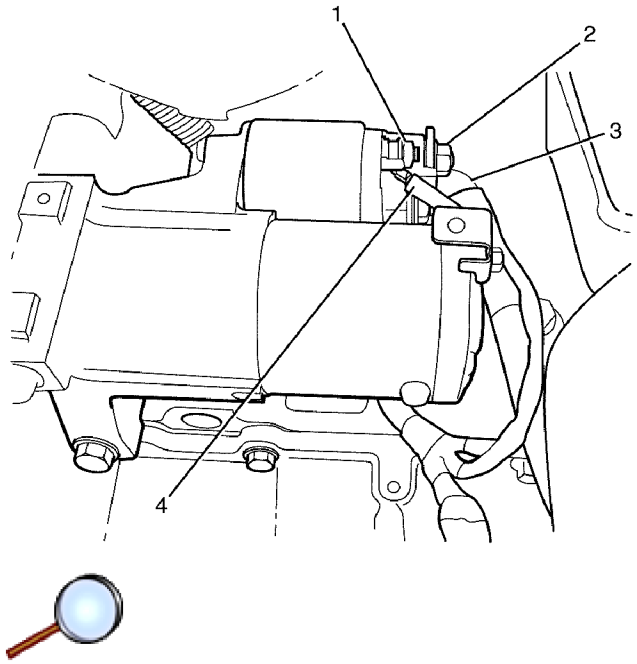
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.



2. Manoeuvre the starter motor (2) into position between the transmission bell housing and body sub frame.

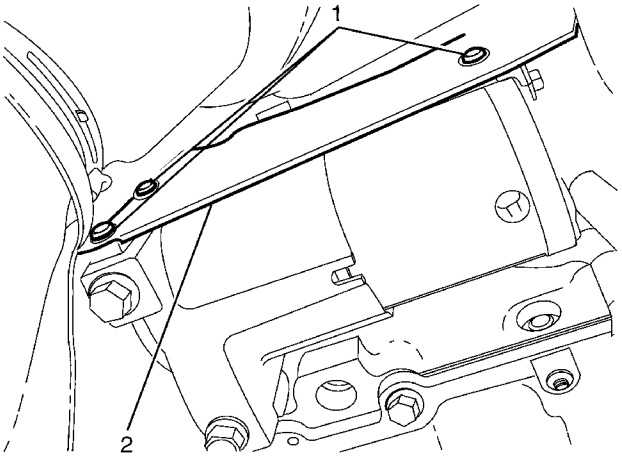
Caution: Refer to Fastener Caution in the Preface section.

3. Install starter motor to bell housing retaining bolts (1) and tighten to **50 N·m (37 lb ft)**.



4. Install the engine wiring harness lead terminal (4) from the starter motor.
5. Install the engine wiring harness lead nut (1) and tighten to **4 N·m (30 lb ft)**.

6. Install the battery positive cable (3) from the starter motor.
7. Install battery positive cable retaining nut (2) from the starter motor solenoid.
8. Install battery positive cable retaining nut (1) to the starter motor battery positive terminal and tighten to **10 N·m (7 lb ft)**.



9. Install the heat shield to the vehicle (2).
10. Install the heat shield to starter motor retaining bolts (1) and tighten to **5 N·m (44 lb in)**.
11. Install the right catalytic converter to the vehicle. Refer to Catalytic Converter Replacement - Right Side.

Warning: Refer to Battery Disconnect Warning in the Preface section.

12. Connect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.
13. Remove the safety stands.
14. Lower the vehicle to the ground.

Starter Shield Replacement

Removal Procedure

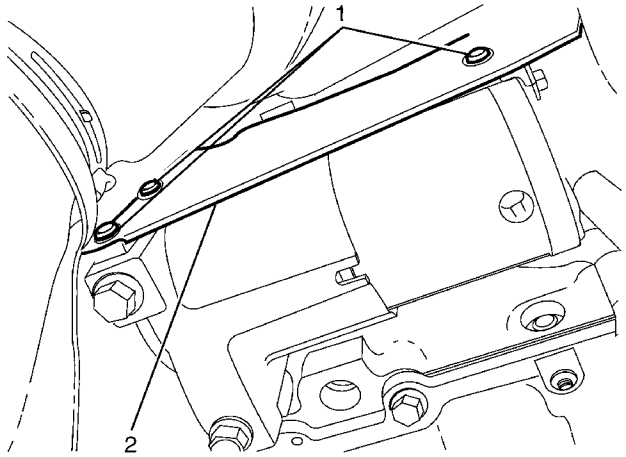
Warning: Refer to Battery Disconnect Warning in the Preface section.

1. Disconnect the battery ground cable from the battery. Refer to Battery Negative Cable Disconnection and Connection.

Warning: Refer to Safety Glasses Warning in the Preface section.

Danger: To avoid any vehicle damage, serious personal injury or death when major components are removed from the vehicle and the vehicle is supported by a hoist, support the vehicle with jack stands at the opposite end from which the components are being removed and strap the vehicle to the hoist.

2. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
3. Remove the right catalytic converter from the vehicle. Refer to Catalytic Converter Replacement - Right Side.



4. Remove the heat shield to starter motor retaining bolts (1).
5. Remove the heat shield (2) from the vehicle.

Installation Procedure

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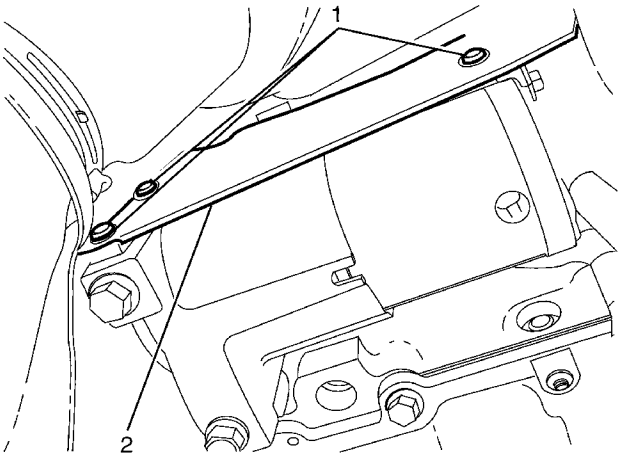


1. Install the heat shield (2) to the vehicle.

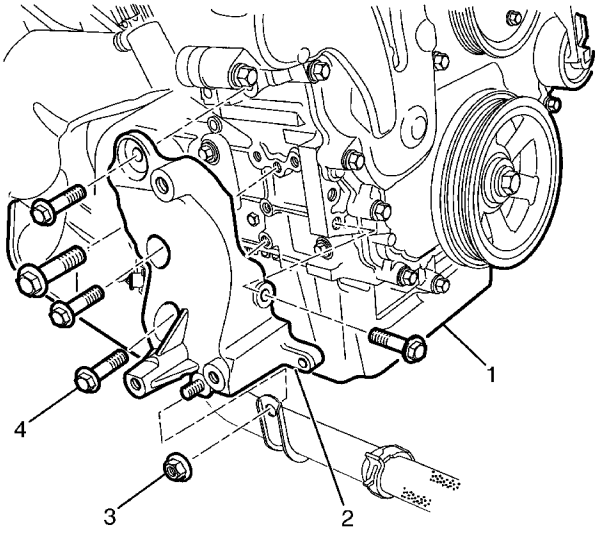
   Caution: Refer to Fastener Caution in the Preface section.

2. Install the heat shield to starter motor retaining bolts (1) and tighten to **30 N·m (22 lb ft)**.
3. Install the right catalytic converter to the vehicle. Refer to Catalytic Converter Replacement - Right Side.
4. Connect the battery ground cable from the battery. Refer to Battery Negative Cable Disconnection and Connection.

Generator Bracket Replacement (3.6L)

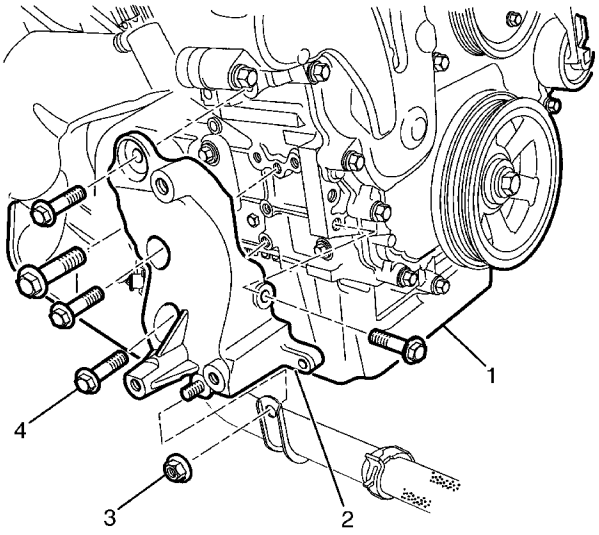
Removal Procedure

1. Remove the alternator. Refer to Generator Replacement.



2. Remove the coolant inlet pipe to alternator mounting bracket retaining nut (3).
3. Remove the alternator mounting bracket to cylinder block retaining bolts (4).
4. Remove the alternator mounting bracket (2) from the cylinder block (1).

Installation Procedure



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1. Install the alternator bracket (2) to the engine block.

   Caution: Refer to Fastener Caution in the Preface section.

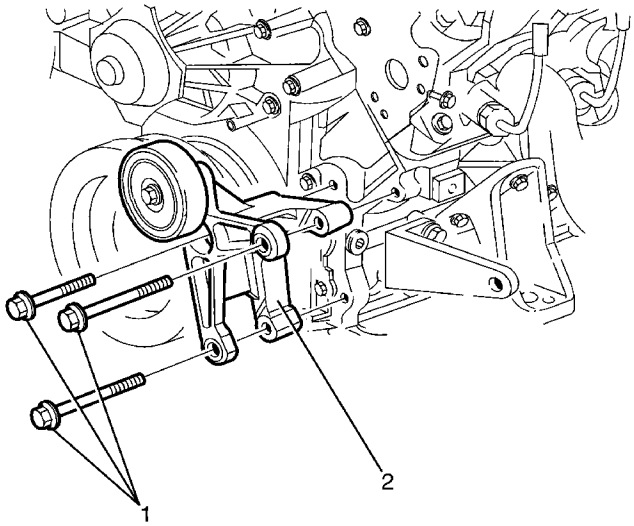
2. Install the alternator bracket to engine block retaining bolts and tighten to **50 N·m (37 lb ft)**.
3. Install the coolant inlet pipe to alternator mounting bracket retaining nut (3) and tighten to **22 N·m (16 lb ft)**.

Generator Bracket Replacement (6.0L)

Removal Procedure

Warning: Refer to Safety Glasses Warning in the Preface section.

1. Ignition OFF.
2. Remove the alternator. Refer to Generator Replacement.



3. Remove the alternator bracket to engine block mounting bolts (1).
4. Remove the alternator bracket (2) from the vehicle.

Installation Procedure

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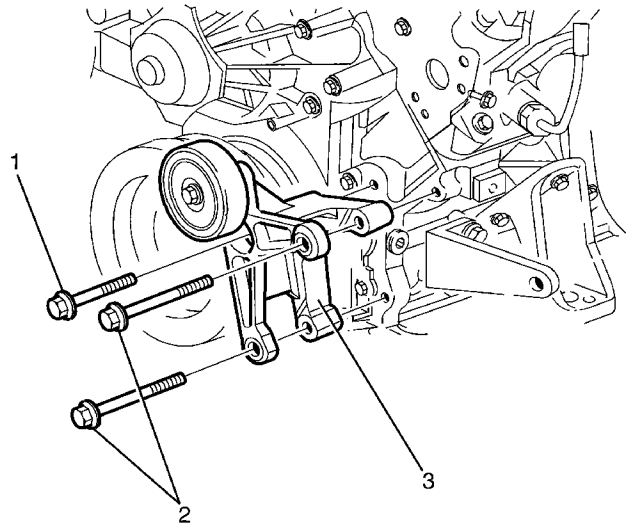


1. Install the alternator bracket (3) to the engine block.

   Caution: Refer to Fastener Caution in the Preface section.

2. Install the alternator bracket to engine block mounting bolts (1). Tighten the bolts in the sequence shown. Tighten the bolts (1) to **27 N·m (20 lb ft)** and the bolts (2) to **50 N·m (37 lb ft)**.
3. Install the alternator. Refer to Generator Replacement.

Generator Replacement (3.6L)

Removal Procedure

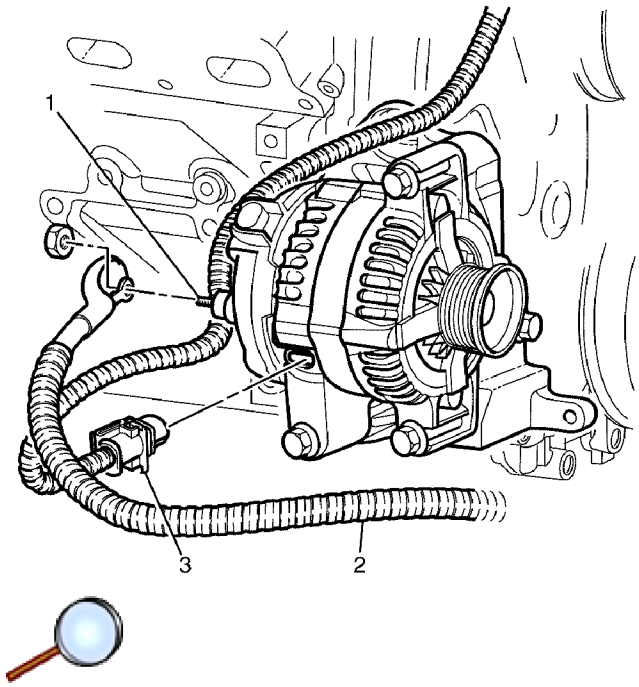
Warning: Refer to Safety Glasses Warning in the Preface section.

Danger: To avoid any vehicle damage, serious personal injury or death when major components are removed from the vehicle and the vehicle is supported by a hoist, support the vehicle with jack stands at the opposite end from which the components are being removed and strap the vehicle to the hoist.

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.

   Warning: Refer to Battery Disconnect Warning in the Preface section.

2. Disconnect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.
3. Remove the drive belt from the alternator. Refer to Drive Belt Replacement.



4. Disconnect the electrical connector (3) from the alternator.
5. Reposition the protective boot from the alternator output terminal for access.
6. Remove the alternator output terminal nut (1) and disconnect the battery positive lead from the alternator.

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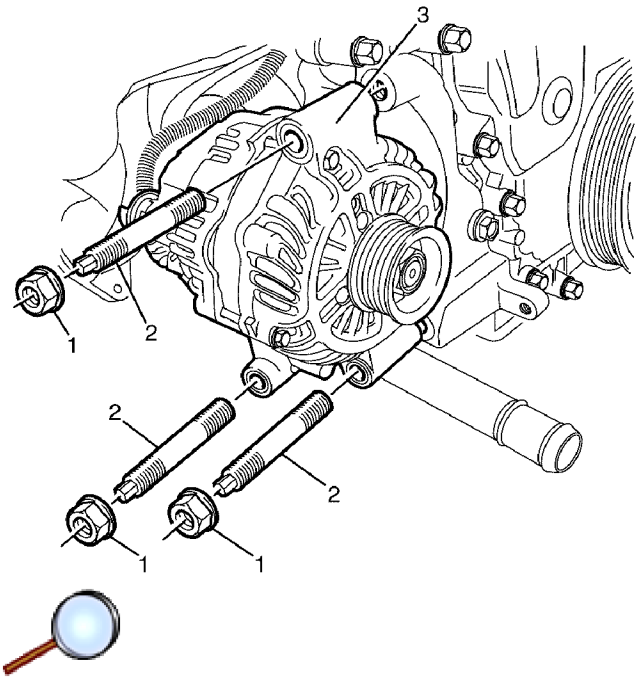
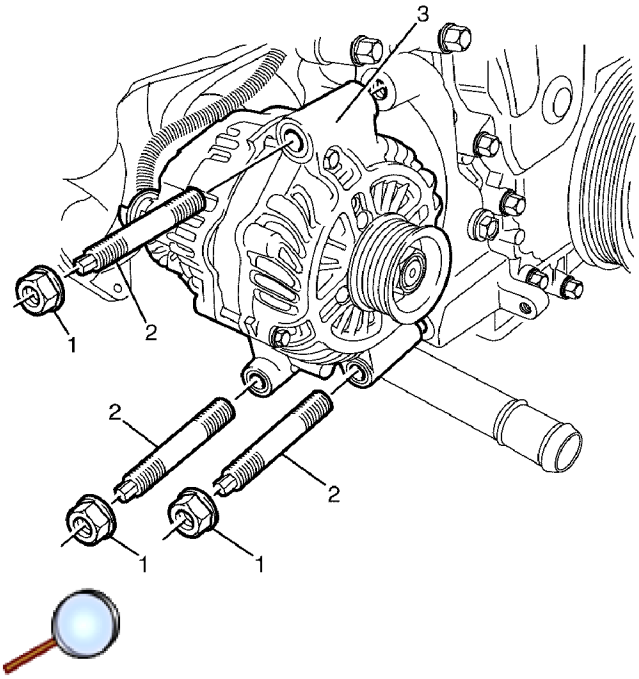


7. Remove the alternator to alternator retaining nuts (1).
8. Remove the alternator to alternator bracket retaining studs (2).
9. Remove the alternator from the vehicle (3).

Installation Procedure

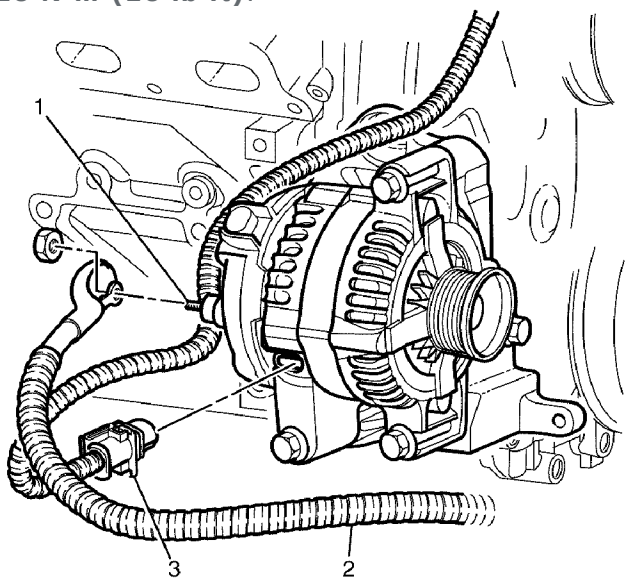


1. Install the alternator (3) to the alternator mounting bracket.

   Caution: Refer to Fastener Caution in the Preface section.

2. Install the alternator to alternator bracket retaining studs (2) and tighten to **18 N·m (13 lb ft)**.

3. Instal the alternator to alternator bracket retaining nuts (1) and tighten to **18 N·m (13 lb ft)**.



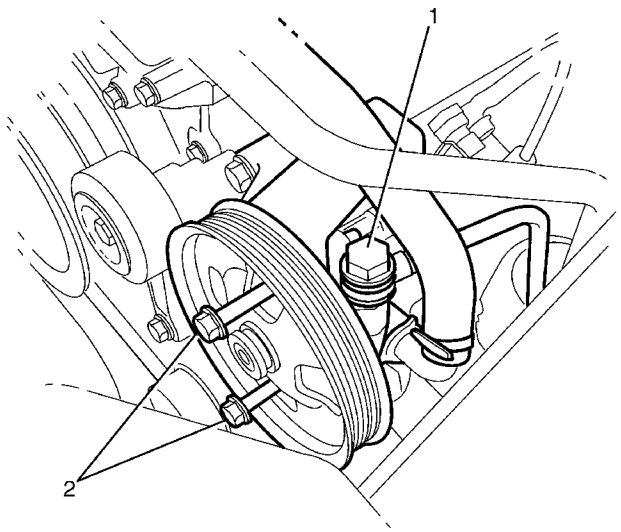
4. Install the battery positive lead and the alternator terminal nut (1) to the alternator and tighten to **13 N·m (115 lb in)**.
5. Install the terminal boot.
6. Connect the electrical connector (3) to the alternator.
7. Lower the vehicle.
8. Install the drive belt to the alternator. Refer to Drive Belt Replacement.
9. Connect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.

Generator Replacement (6.0L)

Removal Procedure

Warning: Refer to Battery Disconnect Warning in the Preface section.

1. Disconnect the battery negative cable. Refer to Battery Negative Cable Disconnection and Connection.
2. Remove the engine cover. Refer to Engine Cover Replacement.
3. Remove air filter assembly. Refer to Air Cleaner Assembly Replacement.
4. Remove the induction tube from throttle body. Refer to Air Cleaner Inlet Duct Replacement.
5. Remove the mass air flow (MAF) sensor. Refer to Mass Airflow Sensor/Intake Air Temperature Sensor Replacement.
6. Remove the drive belt. Refer to Drive Belt Replacement - Accessory.



7. Remove the power steering pump to power steering hose banjo bolt (1).

Note: Bolts with micro-encapsulated thread sealant must be discarded after removal.

8. Remove the power steering pump to power steering pump bracket retaining bolts (2).
   - Discard the bolts.
   - Place the power steering pump to allow access to the alternator.

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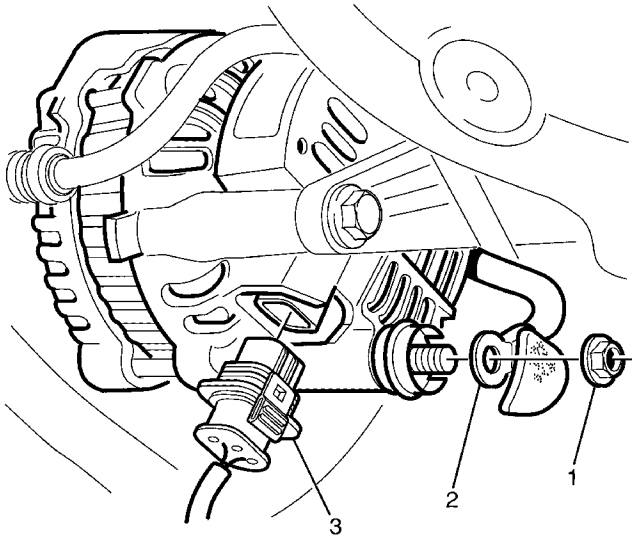
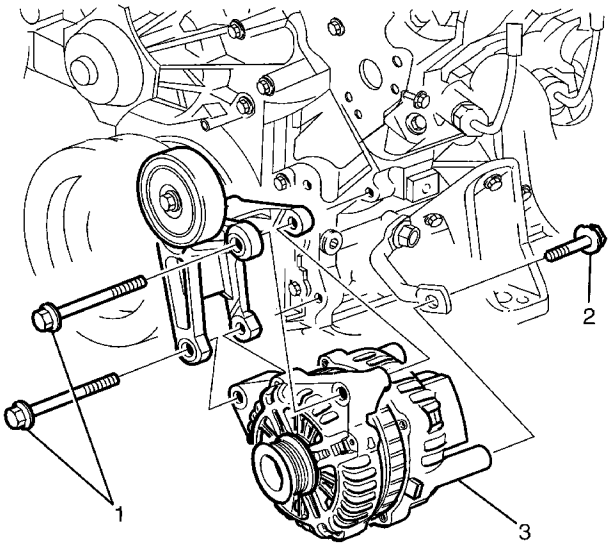


9. Remove the alternator battery positive cable nut (1) from the alternator.
10. Remove the alternator battery positive cable (2) from the alternator stud.

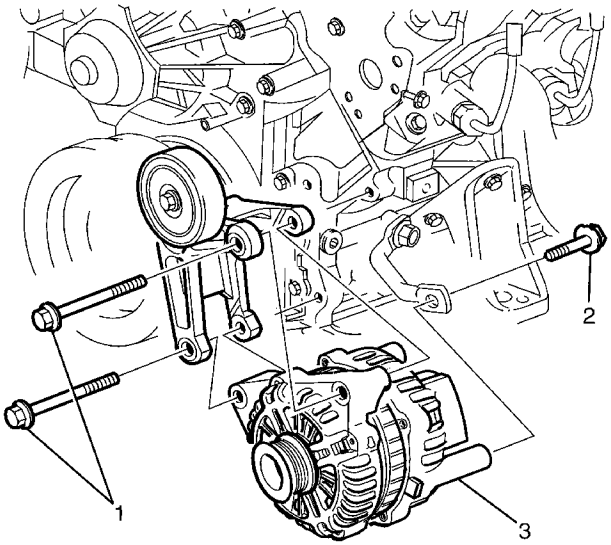
Note: Press the retainer tabs to remove electrical connector.

11. Remove the electrical connector (3) from the alternator.



12. Remove the alternator retaining bolts (1, 2).
13. Remove the alternator (3) from the vehicle.

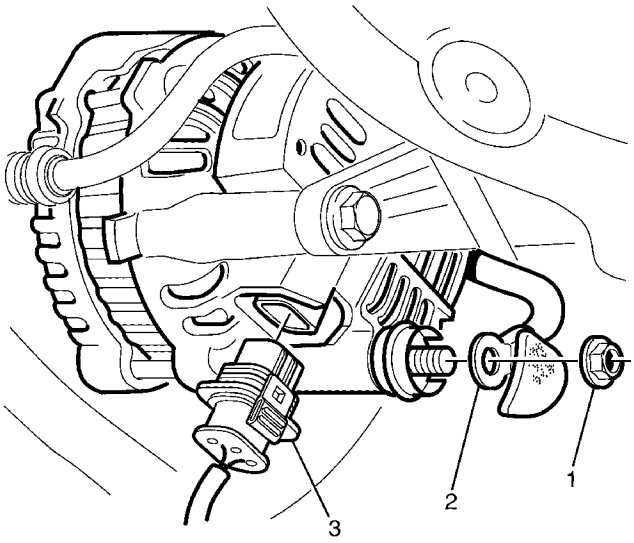
Installation Procedure



1. Install the alternator to the alternator mounting bracket.

   Caution: Refer to Fastener Caution in the Preface section.

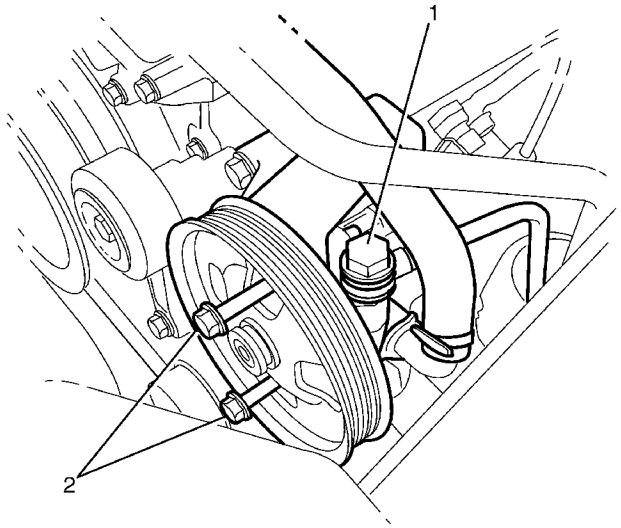
2. Install alternator retaining bolts (1, 2) and tighten to **34 N·m (25 lb in)**.



3. Install the alternator battery positive cable (2) to the alternator stud.
4. Install the alternator battery cable nut (1) to the alternator and tighten to **13 N·m (115 lb in)**.

   Note: Ensure locking tabs are located into the correct position.

5. Install the electrical connector (3).



6. Install the power steering pump to the power steering pump bracket.
7. Install the power steering pump to power steering pump bracket retaining bolts (2) and tighten to **30 N·m (23 lb ft)**.
8. Install the power steering pump to power steering hose banjo fitting bolt (1). Refer to Power Steering System Bleeding.
9. Install the power steering drive belt. Refer to Drive Belt Replacement - Accessory.
10. Install the MAF sensor. Refer to Mass Airflow Sensor/Intake Air Temperature Sensor Replacement.
11. Install the air box. Refer to Air Cleaner Assembly Replacement.
12. Install the engine dress cover. Refer to Engine Cover Replacement.